

AMENDMENT TO THE CLAIMS

In accordance with Rule 1.121, a complete claim listing is presented below. A status identifier (**New**), (**Currently Amended**), (**Cancelled**), (**Withdrawn**), (**Original**), (**Previously Presented**), or (**Not Entered**) precedes each claim. Only the changes in amended claims are shown by strikethrough (deleted material) and underlining (added material).

1-43. (**Cancelled**)

44. (**Currently Amended**) A method for fabricating a scanning probe microscope probe, comprising:

forming a structural layer on a substrate,

wherein the substrate forms a cavity, and a sacrificial layer is located between the substrate and the structural layer;

forming an adhesion layer on the structural layer;

forming a handle on the adhesion layer;

selectively removing the sacrificial layer; and

releasing the structural layer from the substrate.

45. (**Cancelled**) The method of claim 44 further comprising selectively removing the sacrificial layer.

46. (**Cancelled**) The method of claim 45 further comprising releasing the structural layer from the substrate.

47. (**Previously Presented**) The method of claim 46, wherein the structural layer forms a probe having a tip and a cantilever beam connected with the tip.

48. (Previously Presented) The method of claim 44, wherein the cavity forms a pyramid.
49. (Previously Presented) The method of claim 44, wherein the cavity forms a bottom, and the bottom is generally flat.
50. (Previously Presented) The method of claim 44, wherein the structural layer includes a tip layer in the cavity and a beam layer on the tip layer.
51. (Previously Presented) The method of claim 50, wherein the tip layer comprises an elastomer.
52. (Previously Presented) The method of claim 50, wherein the tip layer comprises a first material and the beam layer comprises a second material, wherein the first material is different from the second material.
53. (Previously Presented) The method of claim 44, wherein the sacrificial layer comprises one of a metal, an oxide, and a polymer.
54. **(Currently Amended)** A method for fabricating a scanning probe microscope probe, comprising:
forming a structural layer on a substrate, the structural layer having a tip layer and a beam layer, where
the tip layer comprises a first material and the beam layer comprises a second material,
the first and second materials are independently selected from the group consisting of metals, oxides, polymers, elastomers, and combinations thereof,
the first material is a different material from the second material,

~~wherein~~ the substrate forms a cavity, the tip layer is in the cavity, the beam layer is on the tip layer and a sacrificial layer is located between the substrate and the ~~tip~~ structural layer; and

patterning the structural layer;

selectively removing the sacrificial layer; and

releasing the structural layer from the substrate.

55. (**Cancelled**) The method of claim 54, wherein the sacrificial layer is located between the substrate and the beam layer.

56. (Previously Presented) The method of claim 55, wherein the tip layer comprises one of a metal, an oxide, and a polymer.

57. (Previously Presented) The method of claim 54 further comprising forming an adhesion island on the structural layer.

58. (Previously Presented) The method of claim 57 further comprising placing a handle on the adhesion island.

59. (Previously Presented) The method of claim 58, wherein the adhesion island is bonded with the handle and the structural layer.

60. (**Cancelled**) The method of claim 54 further comprising releasing the structural layer from the substrate.

61. (Previously Presented) A scanning probe microscope probe formed by the method of claim 44.

62. (Previously Presented) A scanning probe microscope probe formed by the method of claim 54.

63. (Previously Presented) The method of claim 54 further comprising sharpening the tip.
64. (**Currently Amended**) A scanning probe microscope probe comprising:
a tip comprising a first material; and
a cantilever beam connected with the tip, the cantilever beam comprising a second material, wherein
the first material ~~comprises one of~~ is selected from the group consisting of a metal, an oxides, and a polymers, elastomers, and combinations thereof,
the second material is selected from the group consisting of metals, oxides, polymers, elastomers, and combinations thereof, and
the second material ~~comprises one of a metal, an oxide, and a polymer~~ the first material is a different material from the second material.
65. (Previously Presented) The scanning probe microscope probe of claim 64, wherein the tip has a height of between 1 and 10 microns.
66. (Previously Presented) The scanning probe microscope probe of claim 64, wherein the cantilever beam has a length of between 100 and 1000 microns.
67. (**Currently Amended**) The scanning probe microscope probe of claim 64 further comprising an adhesion island connected with the cantilever beam.
68. (Previously Presented) The scanning probe microscope probe of claim 67 further comprising a handle connected with the adhesion island.
69. (**New**) The scanning probe microscope probe of claim 64, where the first material comprises an elastomer.

70. (New) A method for fabricating a scanning probe microscope probe, comprising:
- forming a structural layer on a substrate, the structural layer having a tip layer and a beam layer, where
 - the tip layer comprises a first material and the beam layer comprises a second material,
 - the first and second materials are the same and are selected from the group consisting of oxides, nitrides, elastomers, poly(dimethylsiloxanes), polyimides, parylenes, and combinations thereof,
 - the substrate forms a cavity, the tip layer is in the cavity, the beam layer is on the tip layer, and a sacrificial layer is located between the substrate and the structural layer;
 - patterning the structural layer;
 - selectively removing the sacrificial layer; and
 - releasing the structural layer from the substrate.
71. (New) The method of claim 54, where the tip layer comprises an elastomer.
72. (New) A scanning probe microscope probe comprising:
- a tip comprising a first material; and
 - a cantilever beam connected with the tip, the cantilever beam comprising a second material, where
 - the first and second materials are the same and are selected from the group consisting of oxides, nitrides, elastomers, poly(dimethylsiloxanes), polyimides, parylenes, and combinations thereof.

73. **(New)** The scanning probe microscope probe of claim 64, where the first material is selected from the group consisting of oxides, nitrides, elastomers, poly(dimethylsiloxanes), polyimides, parylenes, and combinations thereof.

74. **(New)** The scanning probe microscope probe of claim 54, where the first material is selected from the group consisting of oxides, nitrides, elastomers, poly(dimethylsiloxanes), polyimides, parylenes, and combinations thereof.

75. **(New)** The method of claim 44, where the adhesion layer conforms to a hook integral to the structural layer.

76. **(New)** The method of claim 44, where the material of the adhesion layer is selected from the group consisting of oxides, nitrides, elastomers, poly(dimethylsiloxanes), polyimides, parylenes, and combinations thereof.